PB89-189476

Superfund Record of Decision (EPA Region 3): Fike (Artel) Chemicals Site Nitro, West Virginia (First Remedial Action), September 1988

(U.S.) Environmental Protection Agency, Washington, DC

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U.S. Department of Commerce
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EPA/ROD/R03-88/054
September 1988

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EPA

Superfund Record of Decision:

Fike Chemical, WV

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15. Supplementary Notes

16. Abstract (Limit: 200 words)

The Allied Chemical site is located in the City of Ironton, Lawrence County, Ohio. This remedial action addresses the Goldcamp Disposal Area (GDA) operable unit of the site. The other operable unit, comprised of the coke plant, lagoons, and the tar plant, is addressed in a separate remedial action. The GDA is a four-acre disposal pit located in a mixed industrial/ business/residential area bounded by Third Street on the east and the Ohio River on the southwest. Several businesses and institutions are within 100 feet of GDA. Allied Chemical and Dye Company has owned the property since 1955. The GDA was a sand and gravel pit used for disposal of various chemical wastes from three sources between 1945 and 1977. The wastes include: anthracene residue, anthracene salts, phthalic anhydride residue, and miscellaneous process wastes from the Tar Plant; foundry sand containing heavy metals, phenolics, and oils from the Dayton Malleable Iron Company; and wastes disposed of by the Goldcamp Gravel Company. In 1977, Allied decided to discontinue use of the GDA for disposal of chemical wastes. Allied and its contractor, in consultation with the Ohio Environmental Protection Agency (OEPA), completed a closure project at the site in August 1980, which involved removal of standing liquids and filling and capping the site with clay. Subsequent hydrogeologic and water quality investigations indicated that there is ground water contamination at
(See Attached Sheet)

17. Document Analysis a. Descriptors

Record of Decision
Fike Chemical, WV
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Contaminated Media: gw, soil, sw
Key Contaminants: inorganics (acids, asbestos, cyanide), metals, organics (PCBs)

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

Availability Statement	19. Security Class (This Report) None	21. No. of Pages 49
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(See ANSI-Z39.18) See Instructions on Reverse

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16. ABSTRACT (continued)

the site which may pose a threat to public health through migration. The volume of the disposal area is approximately 300,000 yd^3. In addition to this primary area of contamination, there is a zone of nonaqueous-phase contaminants which have migrated through the aquifer to the underlying impermeable bedrock layer. The extent of the contaminated area is uncertain, but the volume is estimated to be 156,000 yd^3. The surface of the GDA is also a source of contamination because many substances have oozed up through the existing cap. The primary contaminants of concern affecting the soil and ground water are VOCs including benzene, other organics including phenols and PAHs, and inorganics including cyanide.

The selected remedial action for this site includes: construction of a slurry wall around the disposal area from ground surface into the low permeability bedrock; installation of a multi-media RCRA cap over the surface of the disposal area; extraction and onsite treatment of ground water from inside and outside the containment system; provision of an alternate water supply for the Ironton Iron Company until ground water cleanup levels are met; imposition of deed restrictions to limit future uses of the property; and preparation of a supplemental RI/FS to identify the extent and nature of the nonaqueous-phase contaminant layer with implementation of the Agency-approved remedy for this contamination, if different from the present containment alternative. The estimated present worth cost for this remedial action is $13,130,000 with annual O&M costs of $515,000 for approximately 30 years.

Record of Decision

Declaration

Site Name and Location

Fike (Artel) Chemicals Site Nitro, West Virginia

Statement of Basis and Purpose

This decision document presents the selected remedial action for the Fike (Artel) Chemicals site in Nitro, West Virginia, developed in accordance with CERCLA, as amended by SARA, and, to the extent practicable, the National Contingency Plan. This decision is based on the administrative record for this site. The attached index identifies the items that comprise the administrative record upon which the selection of the remedial action is based.

The State of West Virginia has concurred in the selected remedy.

Description of the Selected Remedy

The remedy selected for remediation of the Fike Chemicals site is Alternative 2: Control, Stabilization and Elimination of Immediate Hazards to Human Health and the Environment. This remedy is an action needed to reduce the imminent hazards currently existing onsite. It is also the first phase of a long term remediation of this site and will not be inconsistent with the final remedy.

The major components of this remedy are as follows:

a) Removal and disposal of the tank of methyl mercaptan;
b) Removal and disposal of the drums of metallic sodium;
c) Removal, bulking, and disposal of drums on the ground surface;
d) Removal, bulking, and disposal of the materials found in various tanks, lines, and vessels located onsite;
e) Lab-packing and disposal of certain laboratory containers found onsite;
f) Drainage and stabilization of the onsite and CST Facility lagoons; treatment of the drained liquids from the lagoons; and discharge of those treated liquids to the Kanawha River;
g) Excavation, bulking, and disposal of buried drums;
h) Proper stabilization and/or removal and disposal of asbestos containing insulation material found in process lines;
i) Proper removal and disposal of the cylinder(s) of hydrogen cyanide.

Declaration

The selected remedy is protective of human health and the environment, attains Federal and State requirements that are applicable or relevant and appropriate

for this remedial action and is cost-effective. This remedy satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

9-29-88
Date

Stanley L. Laskowski
Acting Regional Administrator
Region III

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Record of Decision
ROD Decision Summary

Site Name, Location, and Description

Fike Chemicals, Inc. (Fike), now Artel Chemicals, is an active, small-volume, batch formulator that specializes in the development of new chemicals, custom chemical processing, and specialty chemicals. The facility, (Figure 1), is located in the Nitro Industrial Complex, Nitro, West Virginia, and is situated approximately 2,200 feet east of the Kanawha River. Coastal Tank Lines, Inc. (Costal), formerly operated a truck terminal located adjacent to Fike, from which finished and raw chemical materials were hauled. The empty tank trailers were cleaned and repaired at the terminal.

Cooperative Sewage Treatment, Inc. (CST), was formed as a joint venture by both companies to treat their industrial wastes. CST is located between Fike and the Kanawha River.

The Fike Chemicals Site, for the purpose of this study, consists of the Fike and CST properties.

SITE HISTORY

The plant and disposal area are located on the site of a World War I smokeless powder plant. The original chemical plant on the Fike Chemicals site began operation in 1953 as the Roberts Chemical Company. In 1971, Fike Chemicals, Inc. began operations and operated until 1986, when the name and prinicpal ownership changed to Artel. During Fike's operation, over 60 different chemicals were produced, all by batch reaction on an as needed basis.

Fike and Coastal formed CST soon after commencement of Fike's operations. Aerial photographs indicate the presence of two basins on the CST property as early as 1968. Coastal stopped treating waste at CST and sold its interest in CST to Fike in 1978; CST began treating wastewater from National Industrial Services, Inc. (NIS, formerly Maine Coastal), a cleaner of railroad tank cars located on the eastern border of Artel's main plant. The West Virginia Department of Natural Resources (WVADNR) granted NPDES Permit No. WV0001651 to CST on December 13, 1979, which was valid until March 31, 1981. The permit was renewed for a 5-year period commencing in March 1982. Permit violations were noted frequently by the DNR, based on compliance inspections and reviews of discharge monitoring reports. WVDNR subsequently, declined to reissue a permit to CST because of the history of noncompliance.

There is a documented history of groundwater and surface water contamination at the Fike Chemicals Site. In 1980, EPA filed a civil suit against Fike and CST pursuant to the Clean Water Act (CW) and the Resource Conservation and Recovery Act (RCRA) for its discharge of pollutants into the Kanawha River and its disposal of hazardous wastes on site.

That action resulted in a Consent Decree entered in November 1982 with USEPA which required extensive remedial work be performed by Fike including diking, ground cover of principal waste disposal sites, and the pumping and treating of groundwater. Additionally, in June 1984, EPA performed sampling and analysis to determine the extent of dioxin contamination, if any, at the site based on a 1983 screening for dioxin. The EPA discovered low levels of dioxin at the site. The Consent Decree's requirement for a ground cover was determined to be sufficient protection against dioxin. Fike eventually installed the earthen portion of this cover. Although it is possible that some areas of identified dioxin contamination may be disturbed during the proposed Remedial Action, it is not anticipated that such disturbances would pose any threat of their own to human health or the environment.

In response to a RCRA Part B Hazardous Waste permit application submitted by Fike for CST, a Notice of Deficiency (NOD) was sent to Fike by the EPA in March 1985. The NOD indicated to Fike that the Part B for CST was inadequate and that a Part B for the Fike facility should also be submitted. Because of Fike's failure to submit acceptable Part B's for Fike and CST as well as Fike and CST's noncompliance with the interim status certification requirements of Section 3005 (e) (2) of RCRA, interim status for Fike and CST was terminated on November 8, 1985.

GENERAL SITE FEATURES

The Fike Chemicals Site consists of an active chemical manufacturing plant which operated from 1968 until June 1988 when workers were laid off, utilities shut off, and the plant apparently was abandoned by its owners. The chemical plant (Figure 2) covers an area of approximately 11 acres. The northern half of the plant is covered by plant process apparatus, whereas the southern half has historically been used for various waste disposal operations.

Based on the information obtained from historical records, aerial photographs, discussions with employees and site visits, a total of 13 potential source areas of environmental contamination have been identified. These areas include:

* Cooperative Sewage Treatment, Inc.
* Fike Chemicals Production Area
* Fike Chemicals Disposal Area
  - Buried Drum Area 1/1977 Liquid Disposal Trench
  - Buried Drum Area 2
  - Buried Drum Area 3
  - Buried Drum/Bottle Area 4
  - Reclaimed Lagoon 1
  - Reclaimed Lagoon 2
  - 1977 Lagoon (Coastal Tank Lines property)
  - Lagoon 3
  - Sludge Storage Tanks
* Drainage Ditch north and east of Fike
* Plant Sewers

The CST plant is located approximately 400 feet northwest of the site. CST is designed to treat plant surface runoff and process wastewater delivered from Pike Chemical via separate sewer systems. The CST facility layout is shown in Figure 3. Raw wastewater enters Basin No. 1 which is used for flow equalization and pH adjustment. Sodium hydroxide, sulfuric acid, or alum is added to the wastewater prior to discharge into the primary clarifier, an 8-foot-diameter conical tank. The primary clarifier is by-passed during periods of high flow, and the wastewater is discharged to basin No. 2, an aerated activated sludge treatment basin. Basin 2 effluent enters the final clarifier, a 15-foot diameter, 21-foot-deep conical bottom steel tank. Sludge settled in the secondary clarifier is recycled into Basin 2 as required. When sludge is wasted from the secondary clarifier it is placed on sludge drying beds along with wasted primary clarifier sludge. The sludge drying beds are rectangular concrete tanks consisting of a drain tile underdrain beneath layers of sand and pea-gravel that collects filtrate and returns it to Basin 2.

The secondary clarifier discharges to a portable carbon adsorption unit, prior to discharge to the Kanawha River. Basin 3, an oval oxidation ditch which was part of the original treatment process built between 1965 and 1967, was taken out of service in 1986 because of process control problems. Basin 3 was constructed with a concrete bottom, but with rip-rap-covered, native earthen sides. It is likely that exfiltration from this basin has occurred over the 20 years it was used for wastewater treatment. Groundwater monitoring results indicate contamination in the vicinity of the CST site.

The production area shown on Figure 2 was utilized for over 35 years in processing and manufacturing various organic compounds. Until recently the majority of the ground surface was unpaved. As a result, spills or leaks could have entered the soil. Subsequent precipitation may have transported these constituents into the groundwater system.

Buried Drum Area 1 and the 1977 Liquid Disposal Trench are located in the southeastern portion of the site, bounded by a Conrail railroad track to the east and a Pike railroad siding to the west. Aerial photographs taken between 1957 and 1986 indicate waste disposal activities occurred in this area. Buried Drum Area 2 is a long, narrow area south of the current drum storage pad. Reportedly, this area was used around 1971 for disposal of drums.

Buried Drum Area 3 is located in the south end of the Pike property, southeast of and adjacent to waste Lagoon 3. This area was also reportedly used around 1971.

The Buried Drum/Bottled Area 4 is located in the southwest corner of the Pike property. In addition to waste disposal activities supposed to have been practiced here during 1975, a drainage ditch from Reclaimed Lagoon 1 bisected the area between 1973-1980. This drainage ditch directed discharge of excess liquid in the lagoon toward drainage swales along the railroad track.

Reclaimed Lagoon 1 was used from 1973 to 1980 for disposal of semisolid and liquid wastes from the plant manufacturing area that were unsuitable for treatment at CST. The lagoon was constructed without a liner. This reclaimed lagoon is located in the southwestern portion of the property, contiguous with the property boundary. Monitoring wells in the vicinity of the lagoon have been found to contain organic priority pollutants.

Reclaimed Lagoon 2 is located in the south-central portion of the plant property, east of concrete bunkers and the remains of a World War I era munitions plant. This area was used as a disposal lagoon prior to 1983 for wastes deemed unsuitable for treatment at CST. The lagoon was constructed without a liner. In 1979 the waste material from Lagoon 2 was transferred to Lagoon 3 as required by a 1978 Consent Decree. Likewise, the waste contents of Lagoon 1 were transferred in 1981. The lagoons were backfilled to grade following transfer of their contents.

Aerial photography interpreted by the EPA indicated a lagoon located west of reclaimed Lagoon 1 in what is now Coastal Tank Lines parking area. This lagoon is suspected of being used for disposal/storage of wastes around 1977.

Lagoon 3 is a 270,000-gallon capacity waste disposal impoundment located in the southwest portion of the plant property. The lagoon was constructed in February 1979 with a low-permeability clay liner. Its intended use was for storage and evaporative treatment of waste materials from Lagoon 3 was taken out of service in March 1983 pursuant to administrative order No. 829, issued by WVDNR. Precipitation occurs in excess of evaporation in this area of the country, and it is likely that the majority of liquid losses from this lagoon have infiltrated into the ground.

Ten sludge storage tanks are located in the south central portion of the site. The tanks reportedly contain sludge from Lagoon 1 excavated during reclamation of the lagoon in 1981, and liquid from Lagoon 3. The tanks are estimated to be 12 feet in diameter and 15 feet high, with closed tops. The tanks are rusting and in poor condition. The spill containment dike is lined with concrete and contains green liquid and solids.

The drainage ditch between Fike's fence and the Conrail railroad tracks parallels Fike's north and east property line. High levels of cyanide in this ditch were previously detected. The ditch contained a green, stagnant liquid at a location adjacent to the northeast corner of the Fike property.

The plant sewer system was segregated into storm sewers (which receive surface runoff), and wastewater sewers (which receive process wastewater) in 1979. Both sewer systems discharge to the CST. Original construction records for the sewer systems are incomplete and it is suspected that interconnections still exist. Many of the drain inlets are currently clogged with sediments. Additionally, much of the site is underlain by a storm sewer built for a World War I-era munitions plant that discharged to the Kanawha River.

TOPOGRAPHY, SURFACE WATER, and DRAINAGE

The Fike Chemicals Site is located the Kanawha River. Topographic relief on the site is minor, varying in elevation between 592 and 604 feet above mean sea level. The Kanawha River is a major surface water system in Putnam County. It drains the lower portion of the Kanawha River Basin as it flows toward the Ohio River, 43 miles northwest of Nitro, West Virginia. Topography within the Kanawha River Basin is typical of a mature, dissected, unglaciated Appalachian Plateau, with deep-sided valleys and narrow winding ridges.

The investigation areas are very flat. Little local drainage from the plant area flows off-site. The exception is the area east of the plant warehouse and drum storage area. Drainage in this area flows eastward onto the railroad property, where it is intercepted by a north flowing drainage ditch. This ditch extends along the east side of the Fike property, turns westward north of the Vimasco property and extends to Viscose Road where it ends, apparently discharging to the soil.

Surface water from the Fike Chemical plant is generally locally controlled. Plant drainage is collected in a number of floor drains and catch basins. These appurtenances discharge to one of the two sewer systems described above, which convey the collected surface water to the treatment plant.

GEOLOGY, SOILS, and HYDROGEOLOGY

The Nitro Industrial Complex is located on the flood plain of the Kanawha River. The soil survey of Putnam County classifies this area as Urban Land (Uh). This unit consists of nearly level areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings, or other impervious materials.

The site is underlain by alluvial deposits of Pleistocene and Recent Ages that are approximately 60 feet thick. These deposits consist of three zones: (1) fill, (2) loam, and (3) sand and gravel. The fill ranges in composition from a reddish yellow, moist, sandy loam to a white, coarse sand to silt. The loam is generally a moist reddish yellow to yellowish red, sandy to silt loam having thin stringers of brown clay. Sand and sand with gravel becomes dominant with depth. These deposits are lenticular in structure and are generally shades of brown. The sand and gravel deposit is the thickest and is the water-bearing zone.

The bedrock belongs to the Conemaugh Group of the Pennsylvania System. This formation consists of red and vari-colored sandy shale; gray, green, and brown sandstone; minor beds of coal, fire clay, black carbonaceous shale, and limestone. The sandstone and shale is interbedded with numerous coal seams and thin (usually less than one foot thick) limestones. The sandstone and shale units vary considerably in thickness from laminated beds of less than one inch to massive sandstone and continuous shales in excess of 30 feet. The bedrock beneath the Fike Chemicals Site is shale.

HYDROGEOLOGY

Groundwater occurs at a depth of approximately 15 feet. The unconfined, alluvial aquifer has a saturated thickness of approximately 45 feet. An average transmissivity value for the Kanawha River Valley alluvium is 18,000 gpd/foot and thus an approximate hydraulic conductivity is 400 gpd/ft^2. The direction of groundwater flow is west-northwest, toward the Kanawha River.

Groundwater in the alluvial aquifer has been used primarily for cooling processes by local industry. Industrial and public-supply wells tapping the alluvial deposits of the Kanawha River valley have an average yield of 68 gpm. In more recent years, industrial water supplies have been changed from groundwater to the Kanawha River and a private water company (West Virginia Water Co.) which obtains its water from the Elk River near Charleston. Public water is supplied by the West Virginia Water Company.

In Putnam County, there are some water wells that withdraw groundwater from the bedrock. These wells have a much lower yield averaging only 6 to 9 gpm. Groundwater within the bedrock is derived from infiltrating precipitation. Although the bedrock is not confined, only a small percentage of the 42 inches of annual precipitation penetrates the bedrock because the permeability of the bedrock is 7 to 11 times less than that of the unconsolidated sediments.

CLIMATE

The site climatology is characterized using data obtained from the National Climatic Data Center in Asheville, North Carolina, for the National Weather Station at the Kanawha Airport near Charleston, West Virginia, located approximately 10 miles southeast of the Fike Chemicals Site. The period of record is 1947 through 1986.

The weather in this area is highly variable, especially from mid-autumn to Spring. Summer and early Autumn have more day-to-day consistency in the weather. The mean annual temperature is 55°F, with monthly normals ranging from 32.9°F in January to 74.5°F in July. Early morning fog is common from late June through October.

Average annual precipitation is 42.43 inches, with July the wettest month (5.36 inches) and October the dryest (2.03 inches). Droughts severe enough to limit water use are scarce. The maximum 24-hour rainfall for the period of record is 5.60 inches, which occurred in July of 1961. The precipitation of the 10-year 24-hour rainfall event is 4 inches. The mean annual snow fall is 32.2 inches per year. Heavy snowstorms are infrequent and most snowfalls are less than 4 inches. The mean annual lake evaporation (based on the period 1946-1955) is 34 inches.

Prevailing winds are from the southwest; however, winds from the south are common during the period July through October, while during the winter months, the winds originate from the west-southwest. Mean wind speed in 6.4 mph.

POPULATION and ENVIRONMENTAL RESOURCES

The area around Fike Chemicals is predominately used as industrial lands. The site itself is located northwest of Nitro, West Virginia and approximately 2,200 feet east of the Kanawha River and within the floodplain. The Kanawha River has been categorized under West Virginia Water Quality Standards as suitable for water contact recreation, industrial and agricultural water supply, propagation and maintenance of fish, along with water transport, cooling and power. Nitro has a population of approximately 9,500, and an estimated 1,500-2,500 people reside within 1 mile of the Fike facility. In addition, as well as the local swimming pool, the junior and senior high schools are situated within one half mile of the site.

Site History and Enforcement Activities

A brief summary of investigative activities which have previously occured at the site follows:

A. Groundwater Monitoring

-1976 — Groundwater study conducted with fire well sampling events at three wells.

-1977 — National Enforcement Investigations Center (NEIC) conducted sampling of three monitoring wells.

-1981 — JRB Associates performed a study to determine the effects of waste disposal practices at Fike, Coastal, and CST on local groundwater quality.

-1983,— Monitoring wells installed to check compliance with 1982
1984 consent order.

-1985 — Comprehensive groundwater sampling and analysis conducted by Fike Chemicals.

-1985 — EPA sampled wells associated with CST.
-1986 — WVDNR sampled selected wells.

B. Soil Analysis

-1983,— Region III Field Investigation Team conducted air inspection
1984 and collected samples for dioxins.

C. Surface Water

-1977 — NEIC Sampled CST Lagoon 1

-1983 — EPA's Technical Assistance Team (TAT) collected surface water samples from a drainage swale adjacent to the Fike Chemical property boundary.

-1979 —NEIC sampled CST effluent and the storm sewer bypass.

-1984 — Engineering - Science collected surface water samples from the CST treatment basins.

HISTORY of CERCLA ENFORCEMENT ACTIVITIES AT THE SITE

Attached to this Record of Decision are two tables showing a summary of enforcement activities at the Fike Chemical Site. Table I is titled "History of RCRA and NPDES Inspections at Fike Chemical and CST," and table II is titled "History of RCRA Enforcement Actions."

COMMUNITY RELATIONS HISTORY

The community surrounding the Fike Chemicals Site has been well aware and kept informed of EPA and State actions at the site. Since June, 1988, press briefings have occured on an almost daily basis, and two public meetings have been held in the community. This entire matter of community relations is addressed in more detail in the responsiveness summary, which is attached to and made part of, this record of decision.

CURRENT SITE ACTIVITY

On June 12, 1988, EPA was asked by WVDNR, to evaluate conditions at the site due to the apparent abandonment of the facility by the owners. As a result of that evaluation, EPA determined the site to be a potential hazard to human health and the environment and began an immediate stabilization of the site. Since that time various site areas have been secured, drums and chemicals have been sampled for compatability, leaking drums have been overpacked and staged, and the site has been stabilized to the greatest extent possible since the beginning of EPA's actions. The additional work described in this record of decision is needed, however, to fully stabilized this site and remove the immediate threat to human health and the environment.

SCOPE OF OPERABLE UNIT WITHIN SITE STRATEGY

The action proposed in the Record of Decision will reduce or eliminate the most threatening hazards to human health and the environment at the Fike Chemical Site. This action will be an operable unit, or first phase, of a long-term remediation of all threats posed to public health and the environment by the Fike Chemical Site. This action will be consistent with any future Remedial Action taken at the site. A RI/FS is currently underway to investigate potential soil and groundwater contamination as well as other potential affected media. The result of the RI/FS will be used to identify additional remediation activities which may be necessary.

SUMMARY OF SITE CHARACTERISTICS AND SITE RISKS

Approximately 300 bulk storage and process tanks are present on site, in various stages of dilapidation, with a variety of waste streams including acids, bases, flammables, and cyanides. A minimum of 2000 surface drums are also present onsite and are in uncontrolled storage around the site and in warehouses. Some of the waste materials from these drums are incompatible and, if mixed, could result in the formation of dangerous compounds. Also present onsite are approximately 8,000 laboratory containers of known and unknown contents. Approximately 1000 drums are buried onsite, as are an undetermined number of additional laboratory containers. Metallic sodium is contained in approximately 300 of the drums onsite, drums which are in very poor condition. A pressurized tank, of questionable integrity and filled with methyl mercaption , is also at the site.

At the south end of the plant, a large, unlined lagoon contains waste water that CST is incapable of treating. At the CST facility itself, three lagoons are present. These lagoons were used in the wastewater treatment operations when the manufacturing plant was active.

A more detailed description of the characteristics and hazards at the site is given below.

I. Methyl Mercaptan Tank

Located on-site is a tank of methyl mercaptan, which is uncontrolled and a threat to the community. Methyl mercaptan is an extremely flammable, poisonous material which has been found to have mutagenic effects. Nine thousand gallons of this material has been found at the Artel/Fike Site, stored as a liquid under pressure, in a rusted tank of questionable integrity. The Immediately Dangerous to Life and Health Level (IDLH) of this compound is 400 parts per million (PPM), and would threaten public health if a release occured. The site is located directly in the heart of Nitro, West Virginia, and the estimated population of a ten mile radius of the site is 25,000. EPA is currently monitoring the tank and taking measures to ensure its stabilization. However, it is imperative that the material be removed to eliminate the threat to human health and the environment.

II. Surface Drum Removal Operation

The surface drum removal operation, being very complex due to the variety of waste streams found on site, has required careful planning and organization and will continue to require a high level of proper planning to ensure efficient and safe removal of surface drums on-site.

Open drums have been sampled and analyzed for compatibility characteristics. The analysis has categorized them into the following waste streams: Acids, base/neutral liquids, base neutral solids, base/neutral organics, cyanide liquids, cyanide solids, chlorinated organic liquids, flammable liquids, flammable solids, metals, air reactives, PCB's, oxidizers, and peroxides. Once the remainder of the drums have been sampled and categorized, the materials will be bulked according to compatibility characteristics. At this point, the different waste streams will be sampled and sent for disposal analysis pending the type of final disposal. The bulking will be undertaken utilizing several different methods. For the solids, the materials will first be sample bulked into a roll-off box to test for reaction, and then the compatible materials will be bulked into the separate lined 20 cubic yard roll-off boxes. For the liquids, the compatible materials will again be sample bulked into a bulking chamber to test for reaction. The compatibles will then be bulked into the bulking chamber and removed with a 5000 gallon vacuum truck. At that point, the materials will be properly shipped to the final disposal facility, pending the type of final disposal.

III. Tanks, Lines and Vessels

Assessment and sampling of the tanks, lines and vessels is ongoing. Initial estimates indicated that there are approximately 300 tanks and vessels and extensive above ground lines onsite. Total product quantity from the tanks, lines and vessels is estimated to be 750,000 gallons.

After sampling of each of the tanks, lines and vessels, the analytical data will be used to bulk small compatible waste streams into 5,000 gallon quantities for on-site treatment or for off-site treatment or disposal. Bulking is estimated to take 20 days at a cost of $200,000 in labor, equipment and materials. Any large quantity (greater than 5000 gallons) of materials will be pumped out of its container and either treated or shipped off-site for treatment and disposal.

IV. Metallic Sodium

An estimated 100,000 pounds of metallic sodium exists at the site. The material is contained in approximately 200 drums and approximately 1600 five gallon pails in a concrete bunker which is presently being fed nitrogen, but is not being effectively purged. The disposal and handling of large amounts of metallic sodium presents several problems. The drums appear to be in a deteriorated condition and moving these drums will require unusual care. Prior to disposal, the sodium will need to be effectively staged and sampled.

V. Laboratory Packages

At the site, there are two primary laboratory areas which appear to have been a quality assurance/quality control lab and a research/pilot plant area. The bulk of the chemicals are found in a storage room in the back of the labs. Conditions in the storage room and in the lab area in general are congested. There is no segregation of incompatible chemicals on shelves and many containers are stored along walkways on the floor and piled haphazardly on one another. The chemicals range from acids and bases to organic ethers, which can form explosive peroxides. Also found in the lab area were various cyanide compounds with the potential to form cyanide gas. Additionally there are numerous samples, many with unlegible or missing labels. Initial estimates indicate that there are 8,000 chemicals containers, ranging in size from two ounces to five gallons, stored in the lab areas. It is estimated that approximately 60% of the containers are identifiable knowns are 40% are complete unknowns, based on walkthrough assessments of the lab areas.

VI. The Lagoon and CST Facility

The lagoon and Cooperative Sewage Treatment (CST) Facility are also areas of considerable concern as each are leaking contaminated wastes and discharging to the ground and (ultimately) the Kanawha River, respectively. The CST Facility, when operational, was intended to treat liquid wastes from the plant. The CST, an activated sludge system, was designed to treat surface runoff and process water from the plant. The combined volume of the ponds in the CST is 350,000 gallons. The lagoon is a surface impoundment lined with low permeability clay and located near the southern border of the plant which holds approximately 250,000 gallons. Both systems are believed to be contaminated with volatile organics and heavy metals.

VII. Buried Drums

An EPA Field Investigative Team (FIT) study of the Fike Chemical Site in 1983-84 included an investigation of buried drums and bottles at the Artel (Fike Chemical Site). Four areas of concern, covering an estimated 27,000 square feet, were reported to contain approximately 1000 buried drums and lab bottles of unknown characteristics.

Description of Alternatives

Using information collected by EPA's on-scene coordinators (OSCs) and the findings of past and present investigations and data analysis. EPA has developed the alternatives described below for an early action ROD at the Fike Chemical Site. EPA's preferred alternative is based on EPA's Removal. Because EPA's removal program may not have sufficient resources to complete site stabilization work in a timely manner, EPA's remedial program has been activated to ensure the timely completion of site stabilization. Since time is of the essence, only the following two alternatives were considered.

Alternative 1 - No Action

With the No Action alternative, EPA would not implement any measures to protect either human health or the environment from the existing threats at the Fike Chemical Site. Existing chemicals would be allowed to remain onsite with continued unsafe and improper storage and handling.

This alternative would not minimize or eliminate, to any extent, the immediate, and possibly catastrophic, threat to human health and the environment that currently exists; In addition, this alternative does not satisfy the mandate to utilize permanent solutions, nor does it comply with other statutory requirements.

Alternative 2 - Control, Stabilization, and Elimination of Immediate Hazards to Public Health and the Environment

Under this alternative, the most threatening hazards existing at the Fike Chemical Site would be reduced or eliminated. This action would be an operable unit at the site, the first phase in what will eventually be a complete remediation of other potential hazards at the site.

The following actions are proposed to be accomplished:

a) Removal and disposal of the tank of methyl mercaptan tank;

b) Removal and disposal of the drums of metallic sodium;

c) Removal, bulking, and disposal of drums on the ground surface;

d) Removal, bulking, and disposal of the materials found in various tanks, lines, and vessels located onsite;

e) Lab-packing and disposal of certain laboratory containers found onsite;

f) Drainage and Stabilization of the onsite and CST facility lagoons; treatment of the drained liquids from the lagoons; and discharge of those treated liquids to the Kanawha River;

g) Excavation, bulking, and disposal of buried drums;

h) Proper stabilization and/or removal and disposal of asbestos - containing insulation materials found in process lines;

i) Proper removal and disposal of cyanides.

Although some of the above listed actions may be accomplished by the removal problems, they are included in the scope of this ROD to ensure that the work is completed. This initial phase of the Fike Chemical Site remediation is an interim measure necessary to stabilize the most immediate hazards at the site. Additional remedial activities will likely be necessary in the future to address soil and/or groundwater contamination.

Screening of Technologies

A short discussion of the selected remedial methods considered for the various hazards at the site follows.

Methyl Mercaptan:

Onsite flaring or incineration had been proposed for methyl mercaptan but has been discounted for several reasons. The combustion products, sulfur dioxide and sulfuric acid are poisonous and extremely corrosive respectively. This makes onsite incineration impractical without a complete scrubber system. In addition, due to the high percentage of sulfur in the compound, burning must be a slow, and tedious period. Products of incomplete combustion (PIC's) are also a problem. The odor emitted from methyl mercaptan is very noxious, even at the parts per billion level. The most important factor is the proximity of the community which prohibits onsite incineration due to health risks. treatment, as removal of this material would eliminate one of the most severe threats presented by this site.

Off-site incineration is recommended as the option for disposal of the methyl mercaptan. Again, due to the high sulfur content of mercaptan, burning of the material must occur slowly. However, it can be shipped offsite within two days of disposal approval to await incineration. This option has a much lower risk to the surrounding community than onsite treatment, as removal of this material would eliminate one of the most severe threats presented by this site.

Surface Drums:

For Surface drums, incineration is the recommended disposal option for the unknown organics, PCB's and flammables, as this method has proven itself to be cost-effective and environmentally sound. The organic cyanides can be incinerated, or disposed of with the inorganic cyanide wastes listed below. The inorganic cyanides and sulfides can either be treated through ion exchange columns or chemical oxidation off site, with both of these methods cost effective due to the large amounts of cyanide present. Nonorganic acids and bases, and the air/water reactives (sodium addressed later in this document) can be treated offsite through chemical reaction on a cost effective manner. Chemical stabilization or fixation of the base/neutral solids and metals will have to be initiated due to the land ban.

Tanks, Lines, Vessels:

With respect to material in tanks, lines, and vessels, on -site treatment, such as carbon adsorption for base neutral liquids which are not grossly contaminated with organics, cyanides or metals, is recommended. Initial indications are that 35% of the tank waste is wash and rinse water from processes and could be treated on-site through carbon adsorption. Carbon absorption is an effective technology for these waste streams.

Off-site treatment is also recommended for certain waste streams found on-site. Acids and bases can be neutralized off-site economically, since they are estimated to account for only 5% of the waste believed to be contained in the tanks, lines and vessels. Cyanide waste streams require extensive off-site treatment and stabilization before disposal. Ion exchange and chemical oxidation are just two methods of disposal frequently used for the treatment of cyanide waste streams. Five percent

of the waste quantity found in the tanks, lines and vessels is estimated to be organic cyanide compounds, which can be incinerated. Taking into account that the last products made at the site were cyanide based, it is estimated that 20% of these wastes are inorganic cyanide and require off-site treatment mentioned earlier. The cost of treating cyanide waste streams depends on the concentrations of cyanide waste. At this time, these concentrations are unknown but are believed to vary from almost pure to very dilute.

Fifty percent of the waste found in tanks, lines and vessels is believed to be incinerable wastes such as organics and flammables. Incineration is the disposal method recommended for these wastes.

Mettallic Sodium:

If the sodium is to be disposed of off-site the drums need to be removed from the bunker (or collected from the surface) where currently staged, and overpacked into shippable containers. As available disposal facilities (which will accept the sodium in drums) have limited reactor space, the shipments off-site for disposal will have to be spaced over several months. This will make it necessary to maintain a sodium drum staging area until the sodium is disposed of. Due to lower costs and lower risk to the surrounding community, off site treatment is the preferred method of disposal.

The sodium can be treated onsite by reacting the metal with excess water in a tank or cage. The sodium drums must first be removed from the bunker (or the surface of the site) and properly staged. There are differing methodologies for this reaction, however, as long as a provision to deal with the fire and explosions likely to occur exists, and there is a way to contain or restrict the formation of plumes, the advantages of this procedure are that it is cost-effective and is that it proceeds well with small pieces of sodium. The sodium can be treated completely leaving only basic (high pH) water. The main expenses are the personnel costs associated with the handling and treatment of metal, and the costs of sizing or shredding the drums of sodium. This method has been successfully utilized at previous Superfund Removal Actions. This method has some disadvantages. The reaction of metallic sodium and water is violent, highly exothermic, and produces large clouds of caustic particulates (NaOx, NaOH), and flammable hydrogen gas. Also, the handling of the sodium metal represents a hazard to personnel handling the wastes. The formation of hydrogen gas represents a fire and explosion hazard, and the formation of caustic particulates mandates the need for fog or water spray to supress these clouds. The reaction of sodium with water is not time effective when very large volumes need to be neutralized. To mobilize and set up a system that could effectively neutralize the amount of sodium at the site would take from five to ten days . The neutralization operation could be accomplished in 30 to 35 days.

The metallic sodium can
be dissolved into alcohol to form sodium ethoxide or sodium methoxide. The advantages of this is that the waste stream assumes the characteristics of a flammable, reactive liquid, instead of an unstable, air and water reactive solid. This makes the waste pumpable, pourable, and suitable for shipment and handling in standard drums. Disadvantages of this method

are that the dissolution of metalic sodium in alcohol is a time consuming process. The volume of the resulting wastestream will increase considerably over the volume of the sodium metal. The dissolution of sodium in alcohol is not without risk, and can liberate significant amounts of heat (depending upon impurities in the sodium). The resulting sodium methoxide (or ethoxide) is costly to dispose of as it is an extremely strong base. This technique requires significant volumes of alcohol if large amounts of sodium are to be treated. The duration of a dissolution operation is difficult to estimate, the mobilization and set-up of the necessary apparatus, and the refinement of the dissolution process being the limiting factors. It is not unreasonable to assume that the dissolution of the sodium will take approximately as long as neutralization of the sodium with water; however, the dissolution of the sodium will be more expensive than the sodium neutralization.

Laboratory Chemicals:

Known laboratory chemicals are segregated according to compatibility class, and are packed in fiber drums filled with absorbant and then can be sent for incineration.

Unknown lab containers cannot be easily identified and therefore must be remotely opened. With the quantity of unknown lab containers on the site (approximately 3,800), this will entail crushing the containers, mixing the waste with inert material, storing the mixture in rolloff boxes, sampling the mixture, and final treatment and disposal of the waste material. Disposal will be either by treatment, landfill or incineration, depending on analytical results. The unknowns will have to be segregated from the knowns and prepared for crushing during the lab pack operations. Preparations of crushing area will take approximately one week and crushing operations approximately two weeks.

Lagoons and CST Facility:

The most cost effective option available for the Lagoon & CST facility would be to develop an on-site water treatment plant for volatile organics and cyanides, and CST Facility. The treated effluent would be pumped into the Kanawha River, in accordance with the NPDES permit issued by WVDNR. The resulting contaminated sludges and soils would be sent off-site for incineration or treatment.

Buried Wastes:

Assessment of the four areas of buried wastes will be conducted by TAT to determine actual excavation locations, depth of burial and volumes of soil to be excavated and wastes to be removed. Sampling and characterization of the drummed wastes for bulking and disposal will be according to the scope of work for surface drums.

SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

1) Overall protection of Human Health and the Environment

The No Action alternative provides no protection of either human health or the environment. It does, in fact continue to pose existing, and even create new, threats at the site.

The Control and Stabilization alternative will reduce and/or eliminate the most imminent threats to human health and the environment by removing, neutralizing or destroying the hazardous substances associated

with those threats. Risks associated with direct contact, fire, and explosion hazards would be eliminated.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs).

The ARARs considered for this interim remedy are only those which pertain to the action being taken to stabilize the site and eliminate the imminent hazard to human health and environment. The ARARs for the entire site will be addressed in a subsequent Record of Decision.

The Control and Stabilization Alternative would meet the ARARs identified in the attached ARARs compliance matrix (Table III). Specific parameters for a discharge of treated water to the Kanawaha River are shown in Table IV; should these parameters be revised by the WNDNR, the revised standards will take precedence and will be met through treatment.

Long Term Effectiveness and Permanence

The control and stabilization alternative will provide reliable protection of human health and the environment over time by eliminating hazards at the site which are both current and future risks. This alternative will also allow the long term remediation process to proceed without any imminent threats to human health. Additionally, no long term management of the wastes addressed in this Record of Decision will be needed.

Reduction of Toxicity, Mobility, or Volume

The No Action alternative provides no reduction of either toxicity, mobility, or volume of the waste at the site.

The control and stabilization alternative will provide for visually total reduction in the toxicity, mobility, and volume of wastes since these wastes will be either destroyed, neutralized, and/or removed completely from the site. Residuals from treatment process will be disposed of offsite.

Short-term Effectiveness

Under the No Action Alternative, a continuing severe and imminent threat continues to be imposed on both human health and the environment, a threat which would not be abated in any form until completion of a Remedial Investigation/Feasibility Study and Remedial Design.

The Control and Stabilization alternative will allow remediation of existing threats in 6 to 12 months with little, if any, adverse impacts on human health and the environment. Some minor impacts may occur during implementation of this alternative due to fugitive dust, vapors/odors, and offsite transportation of wastes; however, these impacts are considered almost insignificant and would be controlled and monitored to the extent possible through implementation of appropriate ARARs.

Implementability

Although services required for treatment and disposal of some wastes at this site are not readily available, they do exist and will be obtained for use in this remediation. No technical or administrative obstacles to implementation appear to exist.

Cost

The No Action alternative would have no costs associated with it since no Remedial Action would occur until completion of the RI/FS.

Total costs of the Control and Stabilization alternative are estimated to be $8 million. There costs are capital costs for project implementation and, since it is anticipated that the Remedial Action will be completed in 6 to 9 months, these costs may be considered the same as present worth costs for this action. There will be no operation and maintenance costs associated with this alternative. Operation of the treatment system for CST and the lagoon is considered part of the interim remedy and not subject to operation and maintenance. Final disposition of the lagoon area and the CST will be addressed in the next ROD. The costs estimated for this action may be adjusted to take into account either work completed by other parties before, during, or after this action or by the discovery of presently unknown quantities or types of wastes at the site. It is not expected however, that the actual cost will vary significantly from the estimated amount.

State Acceptance

The State of West Virginia, Department of Natural Resources, has reviewed the information available for this site and has concurred in this Record of Decision.

Community Acceptance

A public meeting was held in July, 1988 to inform local residents and businesses of the nature and purpose of EPA's activities at the site, and site, and a subsequent public meeting was held on September 14, 1988 to describe actions proposed to be taken as described in this record of decision. Although an extremely high level of concern exists over the removal/remedial actions at the site, community support for the Federal and State action appears high. Refer to the responsiveness summary attached.

The Selected Remedy

After consideration of information available for the Pike Chemical Site, including the documents available in the Administrative Record, and an evaluation of the risks currently posed by the site, and community input, EPA has selected Alternative 2, Control, Stabilization and Elimination of the Imminent Hazards as the alternative to be implemented at this site. This alternative will eliminate virtually all current and immediate threats to public health and the environment and allow for completion of the RI/FS process. This alternative will remove a real and imminent threat to the safety of the people of Nitro, West Virginia, and the adjacent and surrounding properties.

As required by Section 121 of CERCLA, Alternative 2 is protective of human health and the environment, reduces the volume, toxicity, and mobility of contamination, will attain ARARs, and utilizes permanent solutions to the maximum extent practicable. This alternative is cost effective in that it achieves implementable objectives and offers an effective, implementable remedy which provides long term remediation by destroying or removing contaminants of concern from the site.

ARARs
Compliance Matrix
Fike Chemicals Site
Table III

	Alternative 1	Alternative 2
Action/ARAR	No Action	Control/Stabilization
1. Discharge of treated water into Kanawha River.	N/A	Direct discharge of treated CST and lagoon wastewater into the Kanawha River must satisfy substantive standards of the clean Water Act {304, {302, and 40 CFR {{ 122, 125, and 136. Additionally, specific discharge limitations for parameters listed in the NPDES discharge permit issued by WVDNR for the CST facility will be achieved (Table IV). If these standards are revised by WVDNR before initiation of the remedy, the revised standards will take precedence and will be achieved through treatment.
2. Release of air emissions from soil movement drum staging/ disposal/treatment operations	N/A	Any air emission generated by the Remedial Action will not exceed National Ambient Air Quality Standards.
3. Offsite shipment of hazardous waste	N/A	Any shipment of hazardous waste offsite for treatment/disposal must satisfy the provisions of EPA's offsite policy.
4. Onsite treatment of contaminated wastewater from CST and lagoon.	N/A	Unless exempt under 40 CFR { 264 as a wastewater treatment unit, tanks must be constructed operated, in accordance with the applicable requirements of 40 CFR { 264.1 - .178 and subpart J.
5. Removal/Disposal of asbestos wastes	N/A	Asbestos must be handled in accordance with the National environmental Standards for Hazardous Air Pollutants (NES) 40 CFR 61.04 Subpart M.

ARARs
Compliance Matrix
Fike Chemicals Site
Table III

	Alternative 1	Alternative 2
Action/ARAR	No Action	Control/Stabilization
6. a) Removal of Methyl Mercaptan Tank b) Removal, bulking and disposal of material from tanks, lines, and vessels.	N/A	All appropriate sections of Subpart J, Tank systems standards. 40 CFR 264.190-199
7. a) Removal and disposal of drums of metallic sodium.	N/A	All appropriate sections of subpart I—Use and management of containers. 40 CFR 264.170-178
b) Removal, bulking, and disposal of drums on ground surface.		
c) Lab packing and disposal of laboratory containers.		
d) Excavation, bulking, and disposal of buried drums.		
8. Drainage and stabilization of the onsite and CST facility lagoons. Treatment of liquids and discharge.	N/A	All appropriate sections of Subpart K—Surface Impoundment Standards. 40 CFR 264.220-231

TABLE I

History of RCRA and NPDES Inspections at Fike Chemical and C.S.T

Date of Inspection	Conducted By	Violations
November 20, 1980 (1A)	EPA	Violations were not cited, as RCRA was effective as of November 18, 1980. The Inspection specifically noted that both the Fike and C.S.T. facilities were poorly prepared for the RCRA regulations.
July 28, 1981 (2)	WVDNR	Eight month reinspection found Fike and found Fike and C.S.T. had made no progress in compliance. A copy of West Virginia's proposed regulations and sent again on December 21, 1981. Nine specific violations at C.S.T., including poor operational records, hazardous waste management areas in poor condition, the lack of freeboard and no groundwater monitoring at C.S.T.
December 29, 1981 (3)	WVDNR	A copy of this inspection was sent to Respondents on March 5, 1981. The inspection noted virtually all the violations as in the July 28, 1981 inspection.
December 21, 1982 (7)	WVDNR	This inspection, conducted after EPA and Respondents had entered a Consent Decree, found again that the previous violations continued, citing eight at Fike and twelve at C.S.T. A copy of the inspectio was sent to Respondents on February 4, 1983.
February 28, 1983 (9)	WVDNR	The inspection concentrated on major violations of Fike and noted only three inches of freeboard for the number three lagoon, leaking drums, damaged dikes, and a previously cited hole in the fence that had not been repaired.
May 11, 1983 (11)	WVDNR	Inspection of Fike conducted subsequent to issuance of State administrative order on March 18, 1985. Certain drums had been removed and dike repair initiate however, freeboard was only one foot at lagoon number 3.

TABLE I

History of RCRA and NPDES Inspections at Fike Chemical and C.S.T

Date of Inspection	Conducted By	Violations
August 16-17, 1983 (58)	WVDNR	NPDES inspection.
February 23, 1984 (14)	WVDNR	Inspection of Fike conducted by Emergency Response Section. The inspection concentrated on drums, which had no waste analysis conducted and were in deteriorat condition, many of which were leaking.
March 28, 1984 (15)	WVDNR	Conducted a followup to February 24, 1984 inspection and found no action had been taken to remove leaking drums of Fike. This inspection specifically noted poor security and the continued lack of freeboard.
June 14, 1984 (20)	WVDNR	In response to complaints, representatives of the West Virginia Air Pollution Control Commission cited Fike for open burning of hazardous waste under the applicable State RCRA regulations.
August 16, 1984 (60A)	WVDNR	Oil spills.
August 21, 1984 (21)	EPA	Inspection conducted of Respondents' facilities to determine compliance with EPA compliance complaint. The inspection cited that waste analysis was not properl performed, that the container storage are was still in poor condition and that poor security existed. The inspection also stated that there was not RCRA groundwate monitoring system for C.S.T. and an improperly monitoring and possibly inadequate system for Fike.
August 22, 1984 (22)	EPA	A research sampling inspection on release of volatile organics by surface impoundments at Respondents' facilities was conducted by EPA's Office of Air Quality and Planning Standards in Research Triangle Park, North Carolina. The sampling resul indicate that hazardous wastes and constituents are in the impoundments. Also the report noted the freeboard measuremen were less than two feet for all three

TABLE I

History of RCRA and NPDES Inspections at Fike Chemical and C.S.T

Date of Inspection	Conducted By	Violations
		surface impoundments. This was not a compliance inspection.
October 29-30, 1984 (23 & 24)	EPA	EPA conducted extensive groundwater monitoring for C.S.T. showed many hazardc wastes and waste constituents were in the nonpermitted impoundments. The inspectic and sampling of the Fike well system indi cated that hazardous wastes were present in the groundwater because of release frc the Fike site. The inspection also notec that the sludge had a high cyanide conter but Respondent did not manifest it as a hazardous waste.
March 14-15, 1985 (63)	WVDNR	NPDES.
April 8, 1985 (31)	EPA	Evaluation of the C.S.T. facility to determine compliance for the Loss of Interim Status requirements. Inspection noted that wells were installed at C.S.T. however, no survey was conducted. The C.S.T. hazardous waste units were capable of receiving hazardous waste, however, due to lack of recordkeeping and without continuous sampling it is difficult to demonstrate if hazardous wastes are entering the impoundment.
January 7, 1986 (41)	EPA	Evaluation of the Fike facility for LOIS.
February, 1988	EPA	Fast-Track limited sampling for RCRA evaluation.

TABLE II
History of RCRA Enforcement Actions

Date	Action	EPA/WVDNR	Violations	Resolution
5-20-76	NOV	EPA	NPDES	
4-15-81	Consent Order	WVDNR	NPDES	
9-28-82	NOV	EPA	For C.S.T. Failure to submit RCRA required financial documents due July 15, 1982.	Deficiencies in documents submitted, included in subsequent EPA complaint. Facility has not met all financial requirements. NOT RESOLVED.
11-9-82	NOV	EPA	For C.S.T. Failure to submit quarterly ground-monitoring reports.	RCRA required reports have not been submitted. C.S.T. proposed to install RCRA system in March 1983, however, never implemented. NOT RESOLVED.
11-16-82	Consent Decree	EPA	Required actions to prevent continued releases of contaminants into surface and groundwaters and remedial action to delineate and contain and/or remove contaminations. Included provision to comply with all applicable environmental requirements such as RCRA..	Many original requirements extended, however, certain requirements have not been met. Respondent has failed to delineate contaminate plume. Respondent has not complied with many environmental requirements such as NPDES and RCRA.
3-18-83	Administrative Order	WVDNR	To both Fike and C.S.T. for continued operational and recordkeeping violations. Order included lack of freeboard.	Although some violations wer initially complied with, the have reoccurred. NOT RESOLVED>
10-17-83	Amendment	WVDNR	Allowed time extensions for certain parts of 3-18-83 Order. Specifically disallowed Respondent's plan to achieve freeboard and required immediate removal of excess liquid.	Certain violations have reoccurred. NOT RESOLVED.

TABLE II
History of RCRA Enforcement Actions

Date	Action	EPA/WVDNR	Violations	Resolution
5-9-84	{ 3008(a) Compliance Complaint	EPA	To Fike, required removal of damaged leaking, unidentified drums stored in nonpermitted area. Complaint included proper wording of financial documents.	The drums were removed, the financial documents have not been corrected. Respondent has refused to pay a penalty Administrative Law Judge hearing is scheduled for October 3, 1985.
5-23-84	NOV	EPA	Failure to submit annual ground water report for C.S.T.	Respondent did not submit any required ground water reports for C.S.T. as no wells had been installed, even though Respondent claimed would install wells and complete a years sampling in January 21, 1983 response to EPA's November 9, 1982. NOT RESOLVED.
12-26-84	Notice of Non compliance	WVDNR	To both Fike and C.S.T. for deficiencies in closure plans.	The deficiencies have not been addressed. NOT RESOLVED.
3-12-85	NOV and Notice of Deficiency	EPA	To C.S.T. for an incomplete Part B Application. Incomplete due to numerous deficiencies in application.	Respondent submitted a response on June 6, 1985 and a groundwater plan on May 30, 1985. The response was evaluated and as of August 29, 1985, numerous deficiencies continue to exist.
8-7-85	NOV	EPA	To both Fike and C.S.T. for failure to submit required information on solid waste management units.	Response was due no later August 26, 1985. No report response received to date.
11-15-85	Notice of intent to	EPA	To C.S.T., due to failure to adequately respond to the March 12, 1985 NOD/ NOV and failure to submit SWMU information.	Comment period allowed until January 17, 1986. No comments received.

TABLE II
History of RCRA Enforcement Actions

Date	Action	EPA/WVDNR	Violations	Resolution
12-12-85	{ 3008 (a) Final Order and Consent Agreement	EPA	To Fike Chemical, Respondent admitted as fact, the basis of the May 9, 1984 Complaint and Agreed to comply with the Compliance Order and pay a $5,000 penalty.	Payment has been made and Order initially complied with although it appears from follow-up inspections that Fike is not continuing with recordkeeping.
3-14-86	Termination Interim Status	EPA	To Fike and C.S.T. for failure to comply with LOIS or submit and adequate Part B.	Respondents' compliance in issue.
	Denial of RCRA Permit to store and treat hazardous waste.	EPA	To C.S.T.	C.S.T.'s compliance in issue.
1-8-87	Consent Order	WVDNR		RCRA-primarily drum storage.
7- -87	Civil Action	EPA	RCRA/NPDES	NONE
1- -88	Injunction	WVDNR	RCRA	NONE

Table IV
Current NPDES Parameters
Discharge Limits
for CST Inc.

Parameter	Permit Limitation (Pounds/Day)	
	AVG. MONTHLY	MAX. DAILY
Chemical Oxygen Demands	598	2990
BOD_5	137	273
Total Suspended Solids	27	54
Oil and Grease	5	8
Phenols	.3	.7
Ammonia	16	23
Chloride	5000	6000
Arsenic	.1	.2
Surfactants	—	5
Nitrates	7	14
Sulfates	520	975
Total Solids	8000	9200
Aluminum	10	16
Total Organic Carbon	350	700
Iron	5	10
Barium	.5	.1
Cadmium	.02	.05
Lead	1	2
Mercury	.1	.2
Hexavalent Chromium	.1	.2

EPA's September, 1988 early action Record of Decision (ROD) provides for the Region III Superfund Branch to assist the Region III Emergency Response and Preparedness Section (ERPS) in their stabilization of the Artel (Fike) Chemicals site. Because of the extensive and costly nature of the ERPS removal action, additional resources are needed to complete site stabilization activities. The Region's early action ROD parallels the ERPS removal plan and ensures that the plan will be completed jointly by ERPS and the Superfund Branch.

The ROD provides for site stabilization of the facility surface. Contaminated soil and groundwater will be addressed in a subsequent ROD.

The number of PRPs that will ultimately be identified for the contamination which is the subject of the early action ROD are currently unknown. Notice letters hav ae been sent to the owner/operators of the site including those entities which control the decision-making of Artel Chemical through their majority stockholder interests.

The only companies that have been identified to date as having sent their wastes to the site are Union Carbide Corporation and Polaroid Corporation. Union Carbide Corporation will shortly be sent a notice letter. While Polaroid Corporation is also a PRP, their liability for the surface stabilization work is unclear as Polaroid voluntarily removed some or all of their drummed waste from the site in 1986. The Agency has not determined whether Polaroid's waste was ever recycled or treated at the CST facility which would provide an independent basis for PRP liability. A decision on when to send Polaroid a notice letter will be made shortly.

Although general notice letters have been and will be sent to various PRPs, these parties will not be sent special notice letters. Rather, EPA will notify the PRPs that because the site's environmental problems must be addressed immediately by the Superfund Branch due to the limited funding available to ERPs and the dangerous nature of the Site, EPA cannot activate the negotiating moratorium provided for in Section 122(e) for special notice letters. Rather, EPA will send such parties letters outlining the above concerns and stating that a negotiating moratorium would not be in the public interest. This procedure is set forth in Section 122(a). In addition, the Section 122(a) letters to the various owner/operators will also specify that EPA had determined that a special notice letter would be inappropriate for them because EPA has determined they are unable to stabilize the site as outlined in the ROD.

It should be noted that joint and several liability only attaches to PRPs whose wastes at a site were comingled with the wastes of other parties. However, since much of this ROD's site stabilization concerns labeled drums and cylinders, certain companies may be able to identify and isolate their wastes and therefore limit their liability to those containers. This defense will not be available for companies whose wastes were sent to CST treatment system or the lagoons since these wastes were intermingled with other wastes places in such container.

The major defenses the Agency can expect in a future cost recovery include:

a. Did the Agency act in an arbitrary and capricious manner in declining to send special notice letters out to the PRPs?

b. Did the Agency act in an arbitrary and capricious manner in analyzing only two alternatives for the ROD

c. Did the Agency act in an arbitrary and capricious manner in handling an emergency removal action under the remedial ROD process?

d. For those companies which sent waste to the site, is their liability joint and several or identifiable and limited?

These issues were all discussed by appropriate Regional personnel and a decision was made to proceed with the ROD process to stabilize this site. The brief rebuttal to the PRPs anticipated defenses are:

a. The decision to send Section 122(a) letters instead of Section 122(e) special notice letters was necessary to ensure timely site stabilization and is not subject to judicial review. See Section 122(a).

b. Due to the time constraints and the emergency nature of the site, the need to act swiftly to stabilize the site outweighs the benefit of studying a number of alternatives for cost-benefit purposes. Also, the alternative chosen is the same as recommended by EPA's ERPs which, were ERPs to implement the alternative as part of the removal action, would not be subject to an alternative analysis defense by the PRPs.

c. There is nothing in the NCP prohibiting removal-type actions from being handled as remedial-type actions pursuant to a ROD.

d. The joint and several liability issue will be addressed when EPA has a greater knowledge about the wastes sent to the site by the PRPs.

FIKE CHEMICAL SITE
NITRO, WEST VIRGINIA

FINAL
RESPONSIVENESS SUMMARY
SEPTEMBER 1988

This Responsiveness Summary documents public concerns and comments expressed during the public comment period. The summary also documents EPA's responses to the comments and concerns that were received. Information is organized as follows:

1.0 Overview
2.0 Summary of Community Involvement
3.0 Summary of Comments and Responses Regarding the Removal Action and Proposed Plan for Interim Remedial Action
4.0 Other Concerns and Responses
5.0 Additional Remedial Alternatives
6.0 Remaining Concerns
Attachment:
Community Relations Activities at the Fike Chemical Site

1.0 OVERVIEW

The public comment period for the Fike Chemical Site began on August 27, 1988, and extended to September 25, 1988. To facilitate commenting, EPA briefed community officials in a meeting at City Hall and held a public meeting at Nitro Junior High School on September 14, 1988.

At the meeting, EPA discussed the removal actions in progress at the site and explained the EPA's Proposed Plan for interim remedial actions. The discussion included an explanation of the financial constraints of the removal program and the need to initiate interim remedial measures so that efforts to stabilize chemical hazards at the site can continue without interruption.

EPA's preferred alternative for interim remedial action involves the control and stabilization of the site and the elimination of immediate hazards to public health and the environment by the initiation of the following measures: removal and disposal of a methyl mercaptan tank and drums of metallic sodium; removal, bulking, and disposal of drums on the ground surface and of the materials found in various tanks, lines, and vessels on site; lab-packing and disposal of certain laboratory containers

onsite; drainage and stabilization of onsite lagoons and treatment of the drained liquids; excavation, bulking, and storage of buried drums; proper stabilization and/or removal and disposal of asbestos-containing insulation materials found in process lines; and proper removal and disposal of cyanides.

Officials of the West Virginia Department of Natural Resources (WVDNR) participated in the public meeting and supported EPA's preferred remedial alternative. Local officials and residents were also in agreement with EPA's Proposed Plan at the time of the meeting. The only dissenter who spoke out during the comment period was a former Fike-Artel employee who appeared to be objecting to the presence of EPA's out-of-state removal contractor at the site, rather than commenting on the Proposed Plan.

2.0 SUMMARY OF COMMUNITY INVOLVEMENT

Although residents of Nitro, West Virginia, the community surrounding the Fike-Artel facility, were well aware of the facility's status as a National Priorities List (NPL) hazardous waste site, most were not alarmed by the site. Many residents are financially dependent upon chemical manufacturers and processors operating in the Kanawha Valley and, according to local officials, generally perceive the chemical industry as quite safe.

Despite numerous air emissions and fires that occurred at the site during its operation, State and Federal officials reported little community interest in the site, although local officials did receive some concerned inquiries regarding air emissions from the plant.

When the EPA Community Relations Plan was being developed, both residents and local officials said they welcomed the Federal Superfund investigation. One official said the community was "relying on the experts" to determine whether the facility posed a significant health threat and whether it should be closed. Several people indicated a belief that Fike-Artel might have caused unnecessary risks because of careless work and storage habits at the plant.

The level of concern about the site remained low until July 1988 when the site owners/operators walked off the job after the facility's utilities were cut for non-payment of bills. Angry workers, who had not been paid for 2 months prior to the walk-out, reportedly watched the site for 2 weeks because they did not want assets removed from the site until they were compensated.

On July 28, 1988, EPA conducted a public meeting to discuss the Agency's plans to stabilize dangerous conditions at the abandoned site. Three hundred residents and former workers attended. Three former Fike-Artel employees who were present said that EPA was overreacting regarding risks posed by the site and recommended that the Agency solicit former workers to help at the site.

A second public meeting, held by EPA on September 14, 1988, was attended by approximately 70 people. Overall, the proposed evacuation of the community during some removal actions was the primary topic of discussion. Immediately prior to the meeting, EPA representatives received a copy of a public opinion survey from the mayor of Nitro. Although the mayor had no knowledge of who was responsible for the survey, it had been conducted by a reputable Charleston public affairs firm. The survey concluded that, in general, the local community supported the EPA's presence at the site and was pleased with the EPA's work to date.

On September 22, 1988, approximately 100 local residents met with EPA to discuss plans to evacuate 5000 residents over the weekend while a removal contractor, OH Materials, removed a tank of hydrogen cyanide (HCN) from the site. Again, the issue of whether EPA was overreacting regarding risks was raised, as was a complaint that the planned evacuation would complicate the return of Boy Scouts attending a jamboree.

On September 23, 1988, shortly before the implementation of evacuation plans, OH Materials announced that it would not remove the HCN tank, apparently because of renewed liability concerns. Subsequently, EPA issued a press release and held a press conference to explain the cancellation of the HCN removal and evacuation plans to the community. The Mayor of Nitro also held a press conference, during which he withdrew his support of EPA activities at the site as a result of the evacuation cancellation.

3.0 SUMMARY OF COMMENTS AND RESPONSES

The comments and responses summarized in this section were made during the public comment period held in late August and early September 1988. They reflect concerns regarding both the removal program activities and the Proposed Plan interim remedial actions because the interim remedial actions are the continuation of actions undertaken by the removal program which the removal program is not funded to complete. Comments numbered 1 through 9 were presented at a public meeting held locally on September 14, 1988. All other comments were submitted to EPA in writing.

1. Five questions were asked regarding emergency evacuation. Residents wanted to know if EPA is confident that the site

does not pose a hazard sufficient to cause evacuation oflocal schools now. They also asked how long it would take to evacuate the schools and the immediate vicinity in a worst-case scenario and whether the required time would be sufficient to save lives. One resident, who stated that she had no idea where her child might be sent during an evacuation, suggested that a trial evacuation should be considered to test emergency preparedness.

EPA Responses: The EPA is confident that there is no need to evacuate the local community and schools at this time. Also, any operations that EPA considers to involve high-hazard activities will be conducted when schools are not in session. The activities being conducted during school hours are primarily normal drum sampling, staging, segregating, and moving activities.

EPA met recently, with the school principals and representatives of Putnam and Kanawha Counties, the emergency planning commission, and the City of Nitro and any evacuation that might be needed was discussed, and the responses were planned.

County representatives in the audience added to EPA's response as follows:

In the event of an emergency, school district buses and radio-equipped, public transit buses would respond to any call for help. Consequently, buses would begin arriving at the schools minutes after a call is issued. Under the best conditions, most buses would arrive in under 15 minutes; under the worst-case scenario, it might take 45 minutes to get the buses into the area. If things went well, approximately 3,500 people would be evacuated per hour. Depending on the specific circumstances at the time, an evacuation may include from 4,000 to 12,000 people. If evacuation of 3,500 people per hour occurs under optimum circumstances, then, it's probably going to take four to six hours to get everyone out in a large scale evacuation. Whether this is adequate timing depends on the specific occurrence. Kanawha County conducts tests of the plan in different areas, periodically, to see that it works well.

The schools, the planning commission, and the counties have also considered that evacuation may not be the best answer to an emergency at the Fike Chemical Site. Depending on the type of chemical involved and the chemical concentration

level, it may be preferable to shelter the students in the schools and to ask residents to stay indoors. In some instances, sheltering may actually be a better solution than going out into a contaminated environment.

In the past, the schools have attempted to shelter students in emergencies, but parents, trying to locate their children, breached the security of the shelter by opening the doors and letting in the contaminated air. Parents must understand that in such a situation, they should not come to the schools until the environment is declared safe.

2. Four questions asked pertained to EPA's knowledge of hazardous substances present at the site. Residents wondered whether EPA reviewed available files for possible hazardous substance identification before going onsite and if so, why the stabilization was taking so long. They also wanted to know if the most dangerous substances onsite were those named in the press: phosgene, mercaptan, and metallic sodium.

EPA Response: Whenever EPA is investigating a hazardous waste site, all available records are reviewed to determine what substances of concern may be present on site. The available files were examined for this site, and EPA also talked to people, including Elmer Fike, who were expected to have knowledge of the site. The problem is, that record-keeping and housekeeping at the Fike Chemical Site was inadequate. In 1984, a law, known as the Resource C known as Act (RCRA), was amended to require anyone involved in a business that handled, produced, or stored hazardous substances to apply for a RCRA permit (known as a Part B permit). Had Fike-Artel done this, an investigation of conditions at the facility would have been conducted, and the resultant information would have been very helpful, but EPA is still involved in lengthy litigation with Fike-Artel concerning the company's failure to comply with the RCRA requirement.

Because of the incomplete nature of the files and the careless manner in which materials were stored and inventoried at the site, EPA has no choice but to exercise caution. Also, there have been instances where information provided to EPA has been incorrect, and this has underscored the need to be cautious with materials at the site.

EPA is aware that some extremely toxic substances were legally manufactured at this site, and as a result, workers on site know to look for certain compounds. However, they may not know where to look for them, and many materials on site are stored in unlabeled containers.

There are many chemical compounds at the site, in addition to methyl mercaptan, metallic sodium, and phosgene, although they may not pose the immediate threat to human health that these three compounds represent. Currently, EPA's highest priorities are the stabilization and removal of methyl mercaptan, a highly toxic, highly flammable and odorous organic compound, and metallic sodium, a substance that is highly reactive to water. There have been reports that phosgene is also at the site, but so far, none has been located. Phosgene is a compressed gas, and approximately 20 unidentified gas cylinders have been found. However, because of their deteriorated condition, identification of contents has not been made. If phosgene is positively identified, it will also be considered a top priority for cleanup.

3. Six questions addressed the matter of legal and financial impacts associated with the site. Questioners inquired about the liability of the Fike Chemical Site owners and former operators, the potential liability of neighboring property owners whose properties may be affected by offsite contamination emanating from the site, and also who determines liability. They wondered if the current cleanup will address offsite contamination and if such contamination will affect property values.

EPA Response: Under Superfund law, there is a provision known as joint and several liability. This provision allows that anyone associated with the ownership or operation of a hazardous waste site can be held liable for the cleanup of that site. Decisions regarding whom to sue are made jointly by EPA and the Department of Justice, although the issue of liability is ultimately determined by the courts. Investigators are involved in responsible party searches associated with practically every Superfund site on the National Priorities List.

When potentially responsible parties (PRPs) are identified, EPA requests their cooperation in the site remediation. If cooperation is not

forthcoming, EPA can resort to legal actions. The best situation is to find a cooperative party and enter into a consent agreement. Another possibility is to issue a unilateral order against a financially solvent entity capable of performing or financing a cleanup. Civil litigation, and sometimes criminal litigation may also be initiated.

At the moment, the extent of contamination from the Fike Chemical Site is not known because conditions at the site must be stabilized before a full-scale remedial investigation (RI) and feasibility study (FS) can be conducted. Once the RI begins, 18 to 24 months may elapse before EPA can provide any definitive information concerning contaminant migration from the site. The RI is not limited to the site boundaries, and is also concerned with air emissions, contaminated groundwater plumes, surface water runoff, leachate streams, and things of that nature.

If contamination emanating from Fike-Artel has contaminated other properties, that contamination will be considered part of the Fike Chemical Site cleanup program, but liability of the property owner should not be assumed or dismissed. The law is very broad in terms of liability for a Superfund cleanup. Decisions regarding whom to sue are made jointly by EPA and the Department of Justice, although the issue of liability is ultimately determined by the courts. The effect of the site on the value of neighboring properties cannot be determined at this time.

4. Three residents raised questions about the timing of the removal of hazardous substances from the site. They wanted to know if a time table for the removal of methyl mercaptan and metallic sodium had been developed and if EPA could project when the site would cease to pose an imminent threat to the community.

EPA Response: No specific dates for removal have been established, but EPA is working to ensure that no life-threatening situations develop at the site. In the last 3 or 4 months, there has been considerable progress toward stabilization of site conditions. Approximately 2600 drums and about 300 tanks have been sampled. Numerous storage drums, in various stages of deterioration, have been overpacked, or sealed

into larger, structurally sound drums, and then the drums have been staged, or segregated, into chemically compatible groups to await removal. Some dilapidated warehouses have also been dismantled.

Currently, EPA is negotiating with American Cyanamid for the removal of the methyl mercaptan. The company performed ultrasound tests on the mercaptan tank earlier this week to determine the structural integrity of the tank and to quantify the volume of mercaptan. American Cyanamid owns an incinerator facility capable of destroying the methyl mercaptan, but the mercaptan will have to be sampled first, and sampling can not be performed until the mercaptan is transferred to a tank truck for transport. This will probably occur in early October 1988. EPA is confident that the mercaptan is stable enough to warrant the wait, in order to assure that all necessary precautions have been taken to protect public health during the transfer operations and the actual transport of the materials.

The unidentified gas cylinders found on site will also be addressed in the very near future. One way to deal with them may be to transport them to a remote location and handle them there. The possibility is under consideration, at this time.

5. Two questions concerned the funding available for cleanup activities at the site. One inquirer wondered what would happen if EPA reached the initial $2 million removal action limit and could not secure additional funds. Another individual inquired if funding problems were anticipated for the long-term site remediation.

EPA Response: Removal funding is limited to $2 million. To go beyond this amount, EPA Headquarters must approve an exemption or waiver, or the work will stop. An additional $3 million was requested and approved for the Fike Chemical Site. This money will sustain the removal activities until remedial funds can be applied to site stabilization efforts. No funding problems are anticipated at this site.

6. One resident inquired about the availability of site-related information. Another asked how site-related information, particularly scheduling information, would be announced to the public and whether members of the

community might serve as advisors to EPA regarding local concerns.

EPA Response: There is an information repository at the Nitro Public Library and finalized reports will be sent there as soon as they become available. Reports can not be placed in the repository if they are in draft form, but EPA is aware of the level of interest at this site and will make every effort to get completed reports out as soon as possible.

In addition to the repository, interested parties can request materials through the Freedom of Information Act. EPA is required to respond to any requests for material, if the material is in finalized form or not part of any litigation procedures.

EPA will issue press releases and public announcements, as needed, to the local news media, including radio, television, and the major local newspapers. No formal citizens' advisory board has been established. However, EPA is always interested in public input, and concerned residents may call or write to EPA representatives on site or in the EPA Region III offices in Philadelphia, Pennsylvania.

7. An official of the Nitro Midget Football Program requested scheduling information about proposed weekend evacuation plans. The information was needed to schedule events for the Program's 175 participants who use the local junior high school playing field.

EPA Response: It is possible that one or more evacuations will be conducted while onsite workers properly move or dispose certain compounds at the site. However, these plans are still being discussed. EPA will make its plans known as soon as the decisions are reached. The Agency realizes the importance of this information to your program and will consult with you before finalizing plans.

8. One former Fike-Artel employee inquired whether the United Steel Workers' union had an injunction against Fike-Artel that prevented the removal of chemicals from the site. He also asked if he could come onto the site and remove things. In addition, this individual expressed anger because the workers performing the removal activities on site were not West Virginians.

EPA Response: EPA is not aware of any court injunction, and the Agency has the authority to remove hazardous substances from the site. Unauthorized individuals cannot remove anything from the property and may not come onto the property.

The removal work being conducted at this site is being done under a contract system that requires a preset contract with contractors capable of responding at a moments notice to a call from any location within Region III. These contractors must be properly trained, and they must be able to be in place within two hours after receiving a request for services.

9. A local shopkeeper expressed the opinion that the evacuation of residents during cleanup activities would affect his business and that EPA should compensate his losses.

EPA Response: The evacuation of residents is a preplanned activity of very short duration. As a result, community members have plenty of time to conduct local business, and shop owners should not experience any financial hardships.

10. One local family wrote to EPA emphatically stating objection to the No-Action Alternative described in the Proposed Plan. The writers requested information about public participation and awareness and whether Fike-Artel was in compliance with applicable State and Federal laws. The writers also wanted to know if Fike-Artel would be prosecuted, if violations were committed.

EPA Response: EPA is not advocating the No-Action Alternative described in the Proposed Plan. However, the Agency is always required to look at the consequences of a No-Action Alternative, in order to determine what would occur if nothing was done at a given site.

As stated in the Proposed Plan, the No-Action Alternative would allow unsafe and potentially catastrophic conditions to continue at the Fike Chemical Site. In addition, the No-Action Alternative would not comply with current statutory requirements, nor would it meet EPA's goal of providing a permanent cleanup solution.

EPA is always receptive to public input regarding Superfund sites and actively solicited public comments on the Proposed Plan during the public

comment period. Local radio and television stations, as well as major local newspapers, will periodically receive information from EPA regarding the Fike Chemical Site throughout the entire cleanup program. In addition, Superfund information and site-related documents will be made available to the public at the local information repository established at the Nitro Public Library.

Decisions regarding whether to sue the owners and operators of the Fike-Artel facility will be made jointly by EPA and the Department of Justice, although the issue of liability will ultimately be determined by the courts.

11. A Responsible Party (RP) submitted several comments regarding the Proposed Plan. One comment stated that the Proposed Plan erred in describing the Fike Chemical Site as "abandoned". The comment also said that, although hourly employees were laid off, surveillance staff was retained, and supervisory personnel continued to work toward securing operating capitol by liquidating inventory or arranging refinancing agreements so that production could be resumed at the facility.

EPA Response: In EPA's judgement, the plant was abandoned with respect to general caretaking and to proper storage and handling of chemicals. EPA determined that the prevailing onsite conditions posed a serious potential hazard to the community and to the environment.

12. The RP also said that the chemicals on site should not all be regarded as hazardous wastes and estimated that 80 to 90 percent of the compounds present were salable items, some of which were already packaged for shipment. In addition, the RP stated that disposing of all the materials at the site as though they are hazardous wastes will inflate disposal costs unnecessarily.

EPA Response: Some of the chemicals on site may not be disposed as hazardous substances, but that determination cannot be made until the chemicals have been sampled. Many containers and drums at the site are unlabeled, and many have been found to be mislabeled. As a result, EPA must sample the chemicals to identify the compounds present and to determine if they are compatible, prior to disposal. All materials determined to be salable will be staged and retained separately for disposition.

13. The RP disagreed with the Proposed Plan's description of the CST lagoon as an unlined lagoon and also questioned the statement that CST was incapable of treating the lagoon contents. The RP said that the lagoon was lined "in accordance with the standards at the time it was built in the late 1970s" and stated that a wastewater treatment plan submitted to EPA by Fike-Artel was rejected without explanation.

EPA Response: Regardless of the exact nature of the CST lagoon lining or the status of the treatment plan, the CST facility is not operational at this time. Consequently, the lagoon has exceeded its capacity, and the overflow must be treated.

14. The RP questioned the need to conduct a groundwater investigation at the site and objected to EPA's "assumption" that many drums are buried there. According to this source, EPA conducted a groundwater investigation at the Fike Chemical Site in 1981 and 1982 and installed additional monitoring wells in 1984 and 1985, yet found no evidence of "significant" groundwater contamination. Similarly, the RP said EPA excavated or bored at several onsite locations during 1982 in an attempt to locate buried drums, but discovered no organic vapors and located only one drum which contained water.

EPA Response: No conclusions have ever been reached regarding the extent of groundwater contamination at the Fike Chemical Site. Testing, to date, has been primarily directed toward priority pollutants or specific parameters, and some samples have shown certain chemicals to be present at elevated levels at some locations. Given this information, and knowing the types of compounds used and produced at the Fike-Artel facility, EPA believes that additional groundwater study is in order.

Information currently available to EPA from several sources indicates the presence of buried drums on the site. Consequently, this issue must be investigated.

15. The RP stated that the most serious problem EPA has found at the Fike-Artel facility is a laboratory-sized cylinder of hydrogen cyanide.

EPA Response: Several serious problems have been identified at the Fike Chemical Site, in addition to hydrogen cyanide. These problems include metallic sodium, methyl mercaptan, sulfuric acid, and numerous unlabeled or mislabeled drums and containers.

4.0 OTHER CONCERNS

A resident said that he and several neighbors live directly across the river from the Fike Chemical Site. He and his neighbors are concerned that they will be trapped in their homes if an emergency occurs because there is only one road into the area, and it comes directly across the river into Nitro. In addition, the road is often blocked for long periods of time by railroad cars parked on the tracks that cross the road. The speaker came to the meeting to request that an EPA representative attend a community meeting to discuss this problem. He also asked whether people in his area were going to be included in evacuation planning.

EPA Response: EPA may not have any authority over the access road to your property, but the complaint and petition presented earlier this evening will be passed on to the appropriate authorities, and perhaps they will attend the community meeting.

In the event of an emergency, the location of the neighborhood would determine whether it is considered part of an evacuation action.

5.0 ADDITIONAL REMEDIAL ALTERNATIVES

An RP submitted a written suggestion to EPA. The suggestion urged the Agency to consider completing the requirements of a 1982 Consent Decree between Fike Chemicals/CST and EPA or to arrange adequate funding, through Federal loan programs, to allow the site owners to complete the work themselves. This individual felt that by complying with the decree, the site could resume production under current, or new, management and would then be able to provide additional jobs to the region.

6.0 REMAINING CONCERNS

Concerns not conclusively addressed during the comment period include the following:

- The concern of residents living across the river from the Fike Chemical Site who fear they may be trapped in an emergency because of the single-road access to their neighborhood.

ATTACHMENT

COMMUNITY RELATIONS ACTIVITIES AT THE FIKE CHEMICAL SITE

Community relations activities conducted to date:

- EPA conducted a community assessment, in August 1987, during which residents and local officials were interviewed.
- A local information repository was established by EPA, in late 1987, at the Nitro Public Library.
- EPA conducted a public meeting at Nitro Junior High School on July 28, 1988, to discuss EPA plans to stabilize and secure the abandoned Fike Chemical Site. About 300 people attended.
- EPA published an announcement in local newspapers of a public meeting concerning the EPA's Proposed Plan for interim remedial actions at the site, in August 1988.
- EPA produced a Proposed Plan and distributed it to about 70 residents who attended an EPA public meeting at Nitro Junior High School on September 14, 1988.
- On September 22, 1988, EPA held a meeting to discuss plans to evacuate 5000 residents during the removal of a hydrogen cyanide tank from the site. Approximately 100 people attended.
- EPA issued a press release and held a press conference on September 23, 1988, to explain to the community the events that led to cancellation of the planned removal and evacuation.
- From June 1988 to the present, EPA community relations specialists have been available to the public at the site several days each week.